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By: Printed: Lisa McDill

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: U.S. Patent 6,425,892

Issue Date: July 30, 2002

Patentee: Mary Southam; Keith J. Bernstein; and Henk Noorduin

RECEIVED

JUL 2 5 2006

OFFICE OF PETITIONS

For: DEVICE FOR TRANSDERMAL ELECTROTRANSPORT DELIVERY OF FENTANYL AND SUFENTANIL

# APPLICATION FOR EXTENSION OF PATENT TERM under 37 C.F.R. 1.785 and MPEP 2761

Mail Stop Patent Ext. Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

Submitted herewith is one of two applications for patent term extension on two different patents (5,697,896 and 6,425,892) on one product in accordance with 37 C.F.R. 1.785 and MPEP 2761. The two applications are submitted on the same day under separate covers.

The other application, submitted under separate cover, is for the extension of patent term of U.S. Patent 5,697,896 (Issue Date: Dec 16, 1997. Patentee: Larry A. McNichols; John D. Badzinski; and Ronald P. Haak. Entitled: ELECTROTRANSPORT DELIVERY DEVICE).

The product, IONSYS™ (fentanyl iontophoretic transdermal system) has been approved by regulatory review under 35 U.S.C. §355 (new drugs). Four additional copies of the application are submitted with the original.

Applicant reserves the right to select one of the two above-mentioned patents for extension at a later date in accordance with 37 C.F.R. 1.785.

Please charge the statutory fee of \$1,120.00 required under 37 C.F.R. 120(j)(1), any deficiency in this fee, and any additional or other fees that may be necessary for receiving and acting upon this application in the Patent and Trademark Office to Deposit Account No. 10-0750. A duplicate copy of this paper is enclosed.

Respectfully submitted,

Date: July 19, 2006

Philip∕S. Yip

Registration No. 37,265

Customer No. 27777

ALZA Corporation c/o JOHNSON & JOHNSON One Johnson & Johnson Plaza, WH3221 New Brunswick, NJ 08933

Phone: 650-564-7054 Fax: 650-564-2195 CERTIFICATE OF EXPRESS MAILING under 37 CFR § 1.10

I hereby certify that this correspondence is being deposited with the United States Postal Service, "Express Mail Post Office To Addressee" service, Express Mail label no. <u>EV 507 752 649 US</u>, addressed to: USPTO, Mail Stop Patent Ext., Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on <u>July 19</u>, 2006.

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OFFICE OF PETITIONS

For: DEVICE FOR TRANSDERMAL ELECTROTRANSPORT DELIVERY OF FENTANYL AND SUFENTANIL

### **APPLICATION FOR EXTENSION OF PATENT TERM UNDER 35 U.S.C. 156**

Mail Stop Patent Ext.

Commissioner for Patents
P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Pursuant to Section-201(a) of the Drug Price Competition and Patent Term Restoration Act of 1984, 35 U.S.C. 156, ALZA Corporation, a corporation organized and existing under the laws of the State of Delaware and owner of record of U.S. Patent 6,425,892, hereby requests, through undersigned counsel, an extension of the patent term of U.S. Patent 6,425,892.

ALZA Corporation is the owner of record of the entire right, title, and interest in U.S. Patent 6,425,892 by virtue of an Assignment from the inventors of application Serial Number 08/952,657 (now U.S. Patent 6,216,033), which Assignment was recorded in the U.S. Patent and Trademark Office on March 17, 1998 at Reel 9083 Frame 0055. A copy of the Assignment and a copy of the recordation of said Assignment are attached as Exhibit 1.

The following information is submitted in accordance with 35 U.S.C. §156(d) and 37 CFR §1.740. For convenience, the formal requirements of 37 CFR §1.740 are specifically set forth below and underlined in accordance with the numerical format set forth therein, and the information submitted in accordance with the requirements is set forth thereunder.

Section 1.740(a) An application for extension of patent term must be made in writing to the Commissioner of Patents and Trademarks. A formal application for the extension of Patent term shall include:

# (1) <u>A complete identification of the approved products as by appropriate chemical and generic name, physical structure or characteristics;</u>

IONSYS™ (fentanyl iontophoretic transdermal system) is a patient-controlled iontophoretic transdermal system with fentanyl hydrochloride for providing on-demand systemic delivery of fentanyl, an opioid agonist, for up to 24 hours or a maximum of 80 doses, whichever comes first. It is designed to permit patients to self-administer discrete doses of fentanyl to manage their acute pain.

The active ingredient is fentanyl hydrochloride. The IONSYS™ system contains 10.8 mg of fentanyl hydrochloride, which is equivalent to 9.7 mg of fentanyl free base. IONSYS™ is designed to deliver a 40 mcg of fentanyl (equivalent to 44.4 mcg of fentanyl hydrochloride) over a 10-minute period upon activation of the dose button. The chemical name of fentanyl hydrochloride is propanamide, N-phenyl-N-[1-(2-phenylethyl)-4- piperidinyl] monohydrochloride. The structural formula is

The molecular weight of fentanyl hydrochloride is 372.93, and the empirical formula is C<sub>22</sub>H<sub>28</sub>N<sub>2</sub>O·HCl. The n-octanol:water partition coefficient is 860:1; the pKa is 8.4.

Each IONSYS™ system has a plastic top housing that contains the battery and electronics, and a red plastic bottom housing containing two hydrogel reservoirs and a polyisobutylene skin adhesive. Only one of the hydrogels (the anode, located under the dosing button) contains fentanyl HCl, along with inactive ingredients. The other hydrogel (the cathode) contains only pharmacologically inactive ingredients. The bottom housing has a red tab that is used only for system removal from the skin and during disposal. A siliconized clear, polyester release liner covers the hydrogels and needs to be removed and discarded prior to placement on the skin. The system is powered by a 3-volt lithium battery.

The inactive ingredients in the IONSYS<sup>™</sup> hydrogels consist of cetylpyridinium chloride, USP; citric acid, USP; polacrilin; polyvinyl alcohol; sodium citrate, USP; sodium chloride, USP; sodium hydroxide; and purified water, USP.

The IONSYS™ system should be applied to intact, non-irradiated skin. The patient administers doses of fentanyl as needed to manage pain. Each on-demand dose is delivered over a 10-minute period. A recessed button and red light are located on the top housing of IONSYS™. To intiate administration of a fentanyl dose, the patient must press the button twice firmly within 3 seconds. An audible tone (beep) indicates the start of delivery of each dose; a red light remains on thoughout the 10 minute-dosing period. Pressing the button during delivery of a dose will not result in additional drug being administered. Between doses, the red light will flash in one-second pulses to indicate the approximate number of doses that have been adminstered up to the present time. Each one-second flash of light indicates adminstration of up to five doses.

A maximum of six doses of 40-mcg fentanyl (equivalent to 44.4 mcg of fentanyl hydrochloride) per hour can be adminstered by the IONSYS™ system. The maximum amount of fentanyl that can be adminstered from a single IONSYS™ system over 24 hours is 3.2 mg (eight 40-mcg doses, each equivalent to 44.4 mcg of fentanyl hydrochloride). Each IONSYS™ system operates for 24 hours or until 80 doses have been adminstereed, whichever occurs first. After the 24 hours have elasped, or 80 doses have been delivered, the IONSYS™ system is deactivated and cannot deliver any additional doses.

The anodic hydrogel, with fentanyl hydrochloride as the active ingredient included therein, contains charged fentanyl (which can be electrically driven in the IONSYS™ system in iontophoretic transdermal fentanyl delivery), thereby providing analgesic effect to control acute post-operative pain.

(2) A complete identification of the Federal statute including the applicable provision of law under which the regulatory review occurred;

The approved product was subject to regulatory review under the Federal Food, Drug and Cosmetic Act, Section 505(b), 21 U.S.C. 355 (new drugs).

(3) An identification of the date on which the product received permission for commercial marketing or use under the provision of law under which the applicable regulatory review period occurred:

The approved product, IONSYS™ (fentanyl iontophoretic transdermal system), received permission for commercial marketing or use under Section 505 of the Federal Food, Drug and Cosmetic Act, on May 22, 2006; a copy of the permission letter is attached as Exhibit 2.

(4) In the case of a drug product, an identification of each active ingredient in the product and as to each active ingredient, a statement that it has not been previously approved for commercial marketing or use under the Federal Food. Drug and Cosmetic Act, the Public Health Service Act, or the, Virus-Serum-Toxin Act, or a statement of when the active ingredient was approved for commercial marketing or use (either alone or in combination with other active ingredients) the use for which it was approved, and the provision of law under which it was approved.

In IONSYS™ (fentanyl iontophoretic transdermal system), the active ingredient is fentanyl hydrochloride, which has not been previously approved for commercial marketing or use under the Federal Food, Drug and Cosmetic Act, the Public Health Service Act, or the Virus-Serum-Toxin Act, prior to the approval of NDA 21-338.

Although the fentanyl base has been marketed before in the DURAGESIC® fentanyl transdermal system (which was a transdermal extended release film system approved

for commercial marketing on Aug 7, 1990), the active ingredient in IONSYS™, fentanyl hydrochloride, has not been approved for commercial marketing or use before.

(5) A statement that the application is being submitted within the sixty day period permitted for submission pursuant to 37 C.F.R. §1.720(f), and an identification of the date of the last day on which the application could be submitted.

This application for extension of patent term under 35 U.S.C. §156 is being submitted within the sixty day period permitted pursuant to 37 C.F.R. §1.720(f), which period expires on July 20, 2006 because the NDA approval date was May 22, 2006.

(6) A complete identification of the patent for which an extension is being sought by the name of the inventor, the patent number, and the date of issue, and the date of expiration.

The complete identification of the U.S. Patent for which an extension is being sought is as follows:

Title: DEVICE FOR TRANSDERMAL ELECTROTRANSPORT DELIVERY OF FENTANYL AND SUFENTANIL

Names of the Inventors: Mary Southam, Keith J. Bernstein, and Henk Noorduin

Patent Number: U.S. 6,425,892

Date of Issue: July 30, 2002

Date of Expiration: June 5, 2015

(7) A copy of the patent for which an extension is being sought, including the entire specification (including claims) and drawings.

A complete copy of the U.S. Patent identified in paragraph (6) is attached hereto as Exhibit 3.

(8) A copy of any disclaimer, certificate of correction, receipt for maintenance fee payment, or reexamination certificate issued in the patent.

No Certificate of Correction or reexamination certificate has been issued with respect to U.S. Patent 6,425,892. A terminal disclaimer issued on U.S. Patent

6,425,892 (disclaiming the term extending beyond the expiration date of prior patent U.S. Patent 6,171,294) is attached hereto as Exhibit 4. A receipt for maintenance fee payment is attached hereto as Exhibit 5.

- (9) A statement that the patent claims the approved product or a method of using or manufacturing the approved product and a showing which lists each applicable patent claim and demonstrates the manner in which each applicable patent claim reads on the approved product or a method of using or manufacturing the approved product:
- U.S. Patent 6,425,892 claims a method of using the approved product (i.e., the IONSYS™ system, which contains fentanyl hydrochloride) to obtain analgesia in a human. The applicable patent claims are claims 1 to 9 and the manner in which each applicable patent claim reads on the method of using the approved product are set forth in detail below.
- 1. A method of obtaining analgesia in a human patient who is suffering from pain, consisting of transdermally delivering solely by electrotransport a dose of about 20 µg to about 60 µg of fentanyl over a predetermined delivery period of up to about 20 minutes, terminating said delivery at the end of said delivery period and thereafter repeating such transdermal administering up to about 100 additional of said doses over a period of 24 hours.

Claim 1 reads on the method of using the approved product because the product is used for obtaining analgesia in a human patient by delivering transdermally solely by electrotransport a dose equivalent of about 40 µg (therefore about 20 µg to about 60 µg) fentanyl base (which is equivalent to 44.4 µg of fentanyl hydrochloride) over a predetermined delivery period of about 10 minutes (therefore up to about 20 minutes), terminating the delivery at the end of the delivery period and then repeating such transdermal administering to delivery up to 80 doses (therefore, up to about 100 additional doses) over a period of 24 hours.

2. The method of claim 1, wherein about 35  $\mu$ g to about 45  $\mu$ g of fentanyl is delivered over a delivery period of about 5 to 15 minutes.

Claim 2 as dependent on claim 1 reads on the method of using the approved

product because about 40  $\mu$ g (therefore about 35  $\mu$ g to about 45  $\mu$ g) of fentanyl is delivered over a predetermined delivery period of about 10 minutes (therefore about 5 to 15 minutes).

3. The method of claim 1, wherein about 40  $\mu$ g of fentanyl is delivered over the delivery period.

Claim 3 as dependent on claim 1 reads on the method of using the approved product because about 40 µg of fentanyl is delivered over a predetermined delivery period.

4. The method of claim 1, wherein the delivery period is about 10 minutes.

Claim 4 as dependent on claim 1 reads on the method of using the approved product because about 40 µg of fentanyl is delivered over a predetermined delivery period of about 10 minutes.

5. The method of claim 1, wherein the additional doses are 35  $\mu$ g to 45  $\mu$ g doses of fentanyl.

Claim 5 as dependent on claim 1 reads on the method of using the approved product because the additional doses are about 40  $\mu$ g (therefore 35  $\mu$ g to 45  $\mu$ g) of fentanyl.

6. The method of claim 1, wherein the fentanyl comprises a fentanyl salt.

Claim 6 as dependent on claim 1 reads on the method of using the approved product because the fentanyl in the system comprises fentanyl hydrochloride, which is a fentanyl salt.

7. The method of claim 6, wherein the fentanyl salt comprises fentanyl hydrochloride.

Claim 7 as dependent on claim 1 reads on the method of using the approved product because the fentanyl in the system comprises fentanyl hydrochloride.

8. The method of claim 1, wherein the doses are self-administered by the patient suffering from pain.

Claim 8 as dependent on claim 1 reads on the method of using the approved product because the doses are self-administered by pressing a button by the patient suffering from pain using the IONSYS™ system.

9. The method of claim 8, wherein the patient is allowed to self-administer no more than six of said doses per hour.

Claim 9 as dependent on claim 1 reads on the method of using the approved product because the IONSYS™ system allows self-administered delivery of no more than 6 doses of 10 minute duration in an hour.

(10) A statement, beginning on a new page, of the relevant dates and information pursuant to 35 U.S.C. §156(g) in order to enable the Secretary of Health and Human Services ... to determine the applicable regulatory review period as follows:

The relevant dates and information pursuant to 35 U.S.C. §156(g)(i) for a patent claiming a human drug, antibiotic, or human biological product in order to enable the Secretary of Health and Human Services to determine the applicable regulatory review period are set forth below:

- (A) Investigational New Drug Application (IND 41,574) was submitted to the Food and Drug Administration ("FDA") on January 27, 1993 and became effective February 27, 1993;
- B) New Drug Application (NDA 21-338) was originally submitted to the FDA on September 23, 2003. Several NDA Amendments were submitted during 2004 and a Class 2 resubmission was submitted to FDA on November 21, 2005;
- C) New Drug Application (NDA 21-338) for IONSYS™ (fentanyl iontophoretic transdermal system) was approved by the FDA on May 22, 2006.

(11) A brief description beginning on a new page of the significant activities undertaken by the marketing applicant during the applicable regulatory review period with respect to the approved product, and the significant dates applicable to such activities.

A brief description of the activities undertaken by Applicant during the applicable regulatory review period is attached as Exhibit 6 and is a chronological synopsis of the significant events and major communications between the Applicant and the FDA from January 27, 1993 to May 22, 2006, on the IND activities and NDA activities.

(12) A statement beginning on a new page that in the opinion of the Applicant the patent is eligible for the extension and a statement as to the length of extension claimed, including how the length of extension was determined.

It is Applicant's opinion that U.S. Patent 6,425,892 is eligible for the extension of time applied for under 35 U.S.C. §156 because it satisfies the requirements for such extension as follows:

- (a) 35 U.S.C. §156(a)U.S. Patent 6,425,892 claims a method of using a product.
- (b) 35 U.S.C. §156(a)(1)

  The term of U.S. Patent 6,425,892 expires on June 5, 2015 and thus has not expired before the submission of this application.
- (c) 35 U.S.C. §156(a)(2)

  The term of U.S. Patent 6,425,892 has never been extended.
- (d) 35 U.S.C. §156(a)(3)

The application for extension is submitted by the authorized agent of the owner of record in accordance with the requirements of 35 U.S.C. §156(d) and the rules of the U.S. Patent and Trademark Office.

# (e) 35 U.S.C. §156(a)(4)

The product has been subjected to a regulatory review period before its commercial marketing or use.

# (f) 35 U.S.C. §156(a)(5)(A)

The commercial marketing or use of the product, IONSYS™ (fentanyl iontophoretic transdermal system) containing the active ingredient fentanyl hydrochloride, after the regulatory review period is the first permitted commercial

marketing or use of the product under the provisions of the Federal Food, Drug and Cosmetic Act, 21 U.S.C. 355, under which said regulatory review period occurred. The IONSYS ™ system, which includes electrical components to electrically drive charged ions to effect fentanyl delivery, has never been marketed before. Further, the active ingredient, fentanyl hydrochloride, has never been marketed before.

### (g) 35 U.S.C. §156(c)(4)

No other patent has been extended for the same regulatory review period for the product, IONSYS™ (fentanyl iontophoretic transdermal system).

- (12-A) The length of extension of the patent term of U.S. Patent 6,425,892 claimed by Applicant is 1182 days. The length of the extension was determined pursuant to 37 C.F.R. §1.775 as follows.
- (a) The regulatory review period under 35 U.S.C. §156(g)(1)(B) began on February 27, 1993, and ended on May 22, 2006, which is a total of 4832 days, which according to 37 C.F.R. §1.775 (c)is the sum of (1) and (2) below:
  - (1) 37 C.F.R. §1.775 (c)(1):The number of days in the period beginning on the date an exemption under subsection (i) of section 505 or subsection (d) of section 507 of the Federal Food, Drug, and Cosmetic Act became effective for the approved product and ending on the date the application was initially submitted for such product under those sections or under section 351 of the Public Health Service Act (the "testing period"), began on February 27, 1993 and ended on September 23, 2003, which is 3860 days and
  - (2) 37 C.F.R. §1.775 (c)(2):The The number of days in the period beginning on the date the application was initially submitted for the approved product under section 351 of the Public Health Service Act, subsection (b) of section 505 or section 507 of the Federal Food, Drug, and Cosmetic Act and ending on the date such application was approved under such section (the

- "application period"), began on September 23, 2003, and ended on May 22, 2006, which is 972 days;
- (b) According to 37 C.F.R. §1.775(d), the regulatory review period upon which the period of extension is calculated is the entire regulatory review period as determined in subparagraph (12-A)(a) above (4832 days) less
  - 37 C.F.R. §1.775(d)(1)(i): The number of days in the regulatory review period which were on or before the date on which the patent issued (July 30, 2002), which is 3440 days, and
  - 37 C.F.R. §1.775(d)(1)(ii): The number of days in which Applicant did not act with due diligence, which is zero (0) days, and
  - 37 C.F.R. §1.775(d)(1)(iii): One-half the number of days remaining in the period defined by paragraph 37 C.F.R. §1.775 (c)(1) after that period is reduced in accordance with paragraphs (d)(1)(i) and (ii) of this section; or  $(3860-3440-0) \times 1/2 = 210$  days,

which totals (4832-3440-0-210)=1182 days;

- (c) The number of days as determined in subparagraphs (12-A)(b) (1182 days) when added to the original term of the patent as shortened by a terminal disclaimer would result in the date as (June 5, 2015 + 1182 days) = August 30, 2018;
- (d) Fourteen (14) years when added to the date of NDA approval (May 22, 2006), results in the date, May 22, 2020.
  - (e) The earliest date as determined in subparagraphs (12-A)(c) and (12-A)(d) is August 30, 2018;

- (f) Since the original patent was issued after September 24, 1984, five (5) years when added to the original expiration date of the patent (June 5, 2015) would result in the date June 5, 2020;
- (g) The earliest date as determined in subparagraph (12-A)(e) and (12-A)(f) is August 30, 2018.
- (13) A statement that Applicant acknowledges a duty to disclose to the Commissioner of Patents and Trademarks and the Secretary of Health and Human Services any information which is material to the determination of entitlement to the extension sought.

Applicant acknowledges a duty to disclose to the Commissioner of Patents and Trademarks and the Secretary of Health and Human Services any information which is material to the determination of entitlement to the extension sought herein.

(14) The prescribed fee for receiving and acting upon the application for extension (see Section 1.20(j):

The statutory fee due is \$1,120.00 (37 C.F.R. §1.740(a)(15) and §1.20(j)). Authorization is hereby provided to charge the amount of \$1,120.00 to Deposit Account No. 10-0750.

Please also charge any additional fees required by this application or credit any overpayment to Deposit Account No. 10-0750.

(15) The name, address and telephone number of the person to whom inquiries and correspondence relating to the application for patent term extension are to be directed as follows:

All correspondence should be directed to Philip S. Johnson, JOHNSON & JOHNSON, One Johnson & Johnson Plaza, New Brunswick, NJ 08933. All inquiries and telephonic communications should be directed to the undersigned attorney at the address and telephone number listed below.

Section 1.740(b) The application under this section must be accompanied by two additional copies of such application (for a total of three copies);

Four (4) additional copies of this application are submitted herewith in accordance MPEP 2753, making a total of five copies.

Prompt action on this application is respectfully requested.

Applicant invites the Commissioner's representative to contact the undersigned at (650) 564-7054 to clarify any issues raised by this application.

Respectfully submitted,

Date: July 19, 2006

Philip & Yip

Registration No. 37,265 Customer No. 27777

ALZA Corporation c/o JOHNSON & JOHNSON One Johnson & Johnson Plaza, WH3221 New Brunswick, NJ 08933 Phone: 650-564-7054

Fax: 650-564-2195

### **EXHIBITS**

Exhibit 1: Copy of the recordation of said Assignment.

Exhibit 2: FDA permission letter.

Exhibit 3: Copy of U.S. Patent 6,425,892.

Exhibit 4: Terminal disclaimer of U.S. Patent 6,425,892 disclaiming the term beyond the expiration of prior patent U.S. Patent 6,171,294.

Exhibit 5: Receipt for maintenance fee payment for U.S. Patent 6,425,892.

Exhibit 6: Brief description of the activities during the applicable regulatory review period.